

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/GB2004/004692

International filing date (day/month/year)
05.11.2004

Priority date (day/month/year)
07.11.2003

International Patent Classification (IPC) or both national classification and IPC
A01N53/00

Applicant
RECKITT BENCKISER (AUSTRALIA) PTY LIMITED

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/GB2004/004692

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/GB2004/004692

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-59
	No: Claims	-
Inventive step (IS)	Yes: Claims	-
	No: Claims	1-59
Industrial applicability (IA)	Yes: Claims	1-59
	No: Claims	-

2. Citations and explanations

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item I

Basis of the opinion

The documents to which this communication refers are numbered in their order of appearance in the international search report.

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. General objection under Article 6 PCT

Independent **claims 1 and 4**, on the one hand, and **claims 23, 26, 30, 33, 35, 38, 49, 50, 51, 52, 53 and 54**, on the other hand, define respectively a cellulosic based substrate or matrix and an article which are suitable for controlling insects. Their subject-matter is characterized using technical features which are present in some independent claims but absent in others so that the reader is not able to find out among all these independent claims which characteristics are essential for achieving the inventive effect of the present invention as claimed. This leads to a lack of clarity under Article 6 PCT.

The substrate/matrix and the article comprising the same should therefore have been characterized using every essential technical feature in only one independent claim for each entity.

N.B. Claims 49-53 neither define the nature of the volatile pyrethroid, nor the nature of the carrier solvent. This implicitly leads to a lack of unity.

2. Novelty (Article 33(2) PCT)

D1 discloses an insect controller comprising a volatile insecticide, such as emperthrin or transfluthrin, which is applied on a support with at least one through hole, preferably a paper support having a honeycomb structure, using acetone as solvent. Said agent is used without heating or artificial wind. According to a preferred embodiment, the substrate exists in a close and open form (see *pages 2-5, figures 4 and 5*).

D2 discloses a method for controlling insects, particularly mosquitos, using a

solution of a volatile pyrethroid, wherein the solvent is acetone or polyethyleneglycol, which is impregnated on a cellulose-containing substrate (see *cited parts in the international search report*).

D3 discloses a device which is suitable for controlling insects, particularly mosquitos and flies, comprising a solution of a volatile pyrethroid, wherein the solvent can be ethanol or acetone, which is impregnated on a cellulose-containing substrate (see *cited parts in the international search report*).

D4 and **D5** disclose paper or cellulose-containing substrates for insect control which are impregnated with solutions of volatile pyrethroids, preferably transfluthrin (see *cited parts in the international search report*).

D6 discloses a piece of paper work with a honeycomb structure on which solutions of volatile pyrethroids in acetone are coated. Said material is used against flies and mosquitoes. Said material can be included within a cylinder (see *cited parts in the international search report*).

The difference between the subject-matter of the present application as claimed and the insect controllers described in those documents lies in the combination of a specific pyrethroids with a carrier solvent which exhibits specific physico-chemical properties.

3. Inventive step (Article 33(3) PCT)

The specific choice of volatile pyrethroids combined with specific carrier solvents seems to involve a surprising and non-obvious technical effect when compared to the prior art insect controllers using solvents such as ethanol and/or acetone.

Indeed, demonstration is made in the *examples* that specific combinations result in an increase in the release rate of the insecticide. However, it appears that certain solvents which physico-chemical characteristics fall under the definition of claims 1 and 4 do not allow to get an increased released rate of the insecticide (see in particular Exxsol D140, bp ~280°C, in *example 8*).

For this reason, inventive step could only be acknowledged for the subject-matter of claims 1-48 and 54-59 if the definition of the solvent is restricted to certain physico-chemical ranges, in particular regarding boiling point, over which the

technical problem has been solved.

Moreover, in claims 49-53, the nature of the volatile pyrethroid and the nature of the carrier solvent are missing. No inventive step can therefore be acknowledged for said claims. Moreover, this further leads to a lack of unity of the application as claimed.

4. Industrial applicability (Article 33(4) PCT)

The industrial applicability of the present invention is acknowledged.

Re Item VII

Certain defects in the international application (form or content)

5. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents **D1-D6** is not mentioned in the description, nor are these documents identified therein.

Re Item VIII

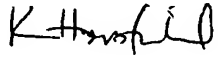
Certain observations on the international application (clarity)

- 6.1 The nature of the solvent appears to be optional in the description (see list including acetone, PEG... on *page 21, line 23 - page 22, line 23*). This leads to a lack of clarity since the invention results -at least in part- from the specific choice of the carrier solvent.
- 6.2 The use of the term "*about*" in the claims and in the description renders the subject-matter unclear within the meaning of Article 6 PCT (see also PCT Guidelines 5.38).
- 6.3 The subject-matter of claims 56 and 57 relates to two different categories which is not allowable under Article 6 PCT.
- 6.4 The last paragraph of the description of the description leads to doubt concerning the matter for which protection is sought.

11345P5 WO – File Note

Jeremy Holmes confirmed that we would not be filing Article 19 amendments.

Katherine Horsfield

A handwritten signature in black ink, appearing to read 'K Horsfield', written in a cursive style.

10 January 2005